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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,421	01/04/2002	Hiromichi Akimoto	AKIMOTO4	2427

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WASHINGTON, DC 20001-5303

EXAMINER

RAGONESE, ANDREA M

ART UNIT	PAPER NUMBER
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3749

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DATE MAILED: 04/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/035,421

Applicant(s)

AKIMOTO ET AL.

Examiner

Andrea M. Ragonese

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-16 is/are rejected.
- 7) ☒ Claim(s) 11 and 13-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 February 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 13 February 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☒ Interview Summary (PTO-413) Paper No(s). 6.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Response to Amendment*

1. The amendment filed on February 13, 2003 has been entered. Examiner acknowledges that **claims 1-8** have been canceled and **claims 9-16** have been added.

### *Drawings*

2. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on February 13, 2003 have been approved. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.84(q) due to the use of improper reference character notation. Lead lines are required for each reference character except for those which indicate the surface or cross section on which they are placed. Such a reference character must be underlined to make it clear that a lead line has not been left out by mistake. On the other hand, underling should not be used if a lead line is used and the reference numeral is not indicating the surface on which it is placed. The following reference characters should not be underlined: element **3** in Figure 6. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to under 37 CFR 1.84(t) because the pages lack proper numbering. Each sheet of the drawings should be numbered in consecutive order. A proposed drawing correction or corrected drawings are required in reply to the

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Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Specification***

5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
6. The following title is suggested: – Apparatus For Freeze-Drying Foodstuffs and Medicaments –.
7. The disclosure is objected to because of the following informalities: the “Brief Explanations of the Accompanying Drawing” should include the phrase – Prior Art – in the description for both Figure 1 and Figure 2. Appropriate correction is required.
8. The abstract is objected to because of the following informalities: in line 11, “tubers” should be deleted and – tubes – inserted therefor. Appropriate correction is required.

***Terminal Disclaimer***

9. The terminal disclaimer filed on February 13, 2003 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US Patent No. 6,420,512 has been reviewed and is NOT accepted.
10. The terminal disclaimer does not comply with 37 CFR 1.321(b) and/or (c) because the application/patent being disclaimed has been improperly identified since the number used to identify the patent being disclaimed is incorrect. The correct number is US Patent No. 6,470,592 B2.

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11. The terminal disclaimer filed on April 8, 2003 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US Patent No. 6,470,592 B2 has been reviewed and is accepted. The terminal disclaimer has been recorded.

### ***Response to Arguments***

12. Applicant's arguments, see Paper No. 4 (pages 8-9), filed February 13, 2003, with respect to the rejection of **claims 1-8** under 35 U.S.C. § 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly applied prior art references (US 3,759,047 and US 4,802,286) to **claims 9-16**.

### ***Claim Objections***

13. **Claims 11 and 13-16** are objected to because of the following informalities:

- in **claim 11**, line 7, "easch" should be deleted and – each – inserted therefor;  
and
- in **claim 13**, line 9, "openingclosing" should be deleted and – opening-closing – should be inserted therefor. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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15. **Claims 9 and 12** are rejected under 35 U.S.C. 102(b) as being anticipated by King, III et al. (US 3,759,047). King, III et al. discloses a freeze-drying apparatus for foodstuffs and medicaments, as shown in Figure 1, which comprises:

- a main body part **2** constructed by assembling an upright cylindrical tube **6** for freezing liquid material onto said main body part **2**, and a cylindrical jacket **16** provided concentrically on and around said tube **6** to permit heat medium to circulate within said tube **6**;
- a duct **4** communicating to a vacuum exhaust system connected to an upper end side of said tube **6** of the main body **2**, either directly or through a chamber;
- a recovery chamber **19** equipped with a valve **18** connected to a bottom part of said tube **6**;
- an inlet port **8** defined in an upper or lower part of said tube **6** for feeding the liquid material into said tube **6** by connection of said tube **6** to a tubepassageway **7** for feeding said liquid material;
- wherein said jacket **16** is provided on an outer periphery of the tube **6** and is divided into a plurality of sections in a vertical direction, as shown at clearance **17**; and
- said heat medium to be circulated within said tube **6** is controlled to a desired temperature level for each section as divided.

***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. **Claims 11 and 13-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over King, III et al. (US 3,759,047) in view of Kobayashi et al. (US 4,802,286). King, III et al. teaches a freeze-drying apparatus comprising all limitations recited in **claims 11 and 13-16**, with the exception of a plurality of freeze-drying apparatuses juxtaposed in multiple series. Kobayashi et al. teaches the use of a freeze-drying plant comprising in combination a plurality of freeze-drying apparatuses (column 5, lines 42-45), as shown in Figure 7, for reducing the dwell time of the liquid material in the drying chamber (column 11, lines 64-68 and column 12, lines 1-10). It would have been obvious to one having ordinary skill in the art at the time the invention was made to add multiple freeze-drying apparatuses, identical to those of King, III et al. in series with the freeze-drying apparatus of King, III et al. to create a freeze-drying plant because, as taught by Kobayshi, it is well-known in the art to utilize a plurality of freeze-drying apparatuses juxtaposed in multiple series in order to carry out simple and accurate controlled cooling of each apparatuses' cylindrical tube with the heat medium to be circulated in the jacket and provide for uniform heat-desiccation which in turn, reduces dwell time of the liquid material in the drying chamber.


**Conclusion**

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Andrea M. Ragonese** whose telephone number is **(703) 306-4055**. The examiner can normally be reached on Monday through Friday from 7 am until 4:30 pm ET.

19. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ira S. Lazarus can be reached on (703) 308-1935. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

20. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.

amr  
April 8, 2003

  
Ira S. Lazarus  
Supervisory Patent Examiner  
Group 3700